



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/758,668 | 01/11/2001 | Fred L. Starkey | 1981/637 | 9539 |

7590 09/25/2002

BRINKS HOFER GILSON & LIONE
P.O. Box 10395
Chicago, IL 60610

EXAMINER

GOINS, DAVETTA WOODS

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2632

DATE MAILED: 09/25/2002

5.

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/758,668

Applicant(s)

STARKEY, FRED L.

Examiner

Benjamin C. Lee

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-20 is/are allowed.
- 6) ☒ Claim(s) 1-15 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Amendment

1. The amendment filed 7/8/02 is objected to under 35 U.S.C. 132 because it introduces **new matter** into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "...characteristic frequency response of the wheel..." of claims 21-22, which is not supported by the disclosed "...characteristic frequency response of the tire..." of the original disclosure.

Applicant is required to **cancel** the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 103

2. Claims 1-15 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuller et al. (US pat. #6,292,095).

1) In considering claims 1-12:

Fuller disclosed the claimed remote tire monitor system (Fig. 4 and Abstract) comprising: a plurality of tire monitors associated with wheels of a vehicle and mountable inside a tire (Figs. 5-6; col. 7, lines 21-23), each tire monitor including a transmitter (74) configured to transmit tire data at a transmission frequency greater than 600 MHz, in a range between 800-1000 MHz (col. 6, lines 1-17), and a receiver (108) configured to receive the tire data;

except:

specifying the claimed each wheel including a tire having a characteristic frequency response, and each tire monitor transmits tire data at a transmission frequency chosen in relation

Art Unit: 2632

to the characteristic frequency response of the tire, wherein (claim 2) wherein the transmitter transmits at a transmission frequency in a passband of the characteristic frequency response of the tire, wherein (claim 6) the characteristic frequency response is related to the structure of the tire; wherein (claim 3) the characteristic frequency response of the tire includes at least one passband and at least one attenuation band of frequencies and wherein the transmitter is designed to transmit at one or more transmission frequencies within the at least one passband for reliable communication of the tire data; wherein (claims 7-8) the tire includes radially or circumferentially positioned metallic strands of a predetermined length a) defining in part the characteristic frequency response of the tire, or b) by having a wavelength substantially less than the predetermined length; and the transmitter frequency is related to the configuration of the metallic strands; wherein (claims 11-12) the tire is of a predetermined model characterized for frequency response passband and the one or more transmission frequencies are chosen according to the predetermined model.

However, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the unspecified tires of a system such as taught by Fuller et al. would be of a predetermined model which could include either circumferentially (directional type tire) or radially (radial type tire) positioned metallic strands of predetermined length; that such a tire included with each wheel would INHERENTLY having a characteristic frequency response passband based on its configuration, material composition, etc. since the characteristic frequency response passband of a tire is an intrinsic property of the tire, whereby inclusion of such tires is a question of the specific tires happened to be on a vehicle that the Fuller et al. system is applied to for monitoring tire pressure.

Art Unit: 2632

Furthermore, since Fuller et al. teaches that the transmitter transmission frequency is CHOSEN to be 900 MHz in one embodiment (col. 6, lines 14-17), which would have provided identical results to the claimed system by virtue of having the same system hardware and functionality REGARDLESS OF WHY such frequency is chosen (e.g. the claimed in accordance with: a predetermined but unspecified model that had been characterized for frequency response; the well-known tire configurations having radially or circumferentially positioned metallic strands wherein the transmission frequency has a wavelength substantially less than the predetermined length of the circumferential strands; a passband of the tire), it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the Fuller et al. system meets such claimed limitations.

2) In considering claims 13-15:

Fuller et al. made obvious all of the claimed subject matter as considered in claims 1-12 above, wherein the claimed tire data modulation on a radio carrier signal and corresponding demodulation are met by col. 6, lines 1-17 and Fig. 5, and the claimed transmitting at a predetermined transmission power is inherently met by the Fuller et al. disclosure/system which doesn't specify altering its transmission power.

3) Claims 21-22 are obvious over Fuller et al. analogous to the consideration of claims 1-12 above, since the wheel constitute material, configuration, etc. that defines the frequency response of the wheel, but nevertheless is made obvious by the Fuller et al. system since it provided the claimed hardware and functionality, regardless of the reasons why.

4) claim 23 is obvious over Fuller et al. as in the consideration of claim 5 above.

Art Unit: 2632

Allowable Subject Matter

3. Claims 16-20 are allowed.

Response to Arguments

4. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection. Please refer to the above rejection for detail. See also the new matter objection above. It is noted that claims 16-20 recite the specific steps of positively "...identifying or characterizing the frequency response of the tire.." and then "...selecting a transmission frequency for the tire monitor using the frequency response of the tire.." , lacking in the prior art, that constitutes the allowable subject matter, whereas the rejected claims recite a system that did not include means to positively determine the characteristic frequency response of a specific tire and then chose the transmission frequency in accordance with it, and that such claimed system limitations the prior art can meet as long as the hardware, functionality and end results are identical to the claimed system.

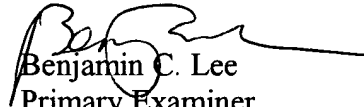
Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (703) 305-0412. The examiner can normally be reached on Mon -Fri 11:00Am-7:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on (703) 305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Art Unit: 2632

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8576.


Benjamin C. Lee
Primary Examiner
Art Unit 2632

B.L.
September 21, 2002